

IN THE CLAIMS

1. (Previously Presented) A process for producing a multilayer sheet S by coating an optionally pretreated carrier sheet with
 - a pigmented basecoat film,
 - if desired, a second pigmented basecoat film, and
 - a clearcoat film,the process comprising:
 - a. applying a pigmented basecoat material to the carrier sheet to give a wet basecoat film 1a, and adjusting the basecoat film 1a to a residual volatiles content “x” of less than 10% by weight, based on the basecoat film, to give a conditioned basecoat film 1b,
 - b. adjusting a surface of the conditioned basecoat film 1b to a temperature of less than 50°C, to give a temperature-adjusted basecoat film 1b,
 - c. if desired, applying a second pigmented basecoat material or the pigmented basecoat material to the temperature-adjusted basecoat film 1b to give a wet basecoat film 2a, and adjusting the basecoat film 2a to a residual volatiles content “y” of less than 10% by weight, based on the basecoat film, to give a conditioned basecoat film 2b,
 - d. if appropriate, adjusting the conditioned basecoat films 1b and 2b to a temperature of less than 50°C at a surface of the basecoat film 2b, to give a temperature-adjusted basecoat film 2b,
 - e. applying a clearcoat material to the temperature-adjusted basecoat film 1b or 2b to give a wet clearcoat film 3a, adjusting the clearcoat film 3a to a residual volatiles content “z” of less than 5% by weight, based on the clearcoat film, to give a conditioned, deformable clearcoat film 3b, and curing the conditioned, deformable clearcoat film 3b thermally and/or with actinic radiation.
2. (Previously Presented) The process as claimed in Claim 1, wherein the residual volatiles content in steps a., c. and/or e. is adjusted by heating and/or convection.

3. (Previously Presented) The process as claimed in Claim 1, step a. further comprising

in the first drying section, employing an average drying rate of 10 to 40% by weight/min, based on the total volatiles content of the applied basecoat film, until the residual volatiles content x is 12 to 30% by weight, based on the basecoat film, and

in the last drying section, employing an average drying rate of 1 to 6% by weight/min, based on the total volatiles content of the applied basecoat film, until the residual volatiles content x is less than 10% by weight, based in each case on the basecoat film.

4. (Previously Presented) The process as claimed in Claim 1, comprising adjusting the basecoat film 1b in step b. to a temperature of less than 35°C at the basecoat film 1b surface.

5. (Previously Presented) The process as claimed in Claim 1, wherein step c. further comprises

in the first drying section, employing an average drying rate of 10 to 40% by weight/min, based on the total volatiles content of the applied basecoat film, until the residual volatiles content y is 12 to 30% by weight, based on the basecoat film, and

in the last drying section, employing an average drying rate of 1.5 to 4% by weight/min, based on the total volatiles content of the applied basecoat film, until the residual volatiles content x is less than 10% by weight.

6. (Previously Presented) The process as claimed in Claim 1, comprising adjusting the basecoat film 2b in step d to a temperature of less than 35°C at its surface 2b.

7. (Previously Presented) The process as claimed in Claim 1, wherein step e. further comprises

in the first drying section, employing an average drying rate of 10 to 30% by weight/min, based on the total volatiles content of the applied clearcoat film, until the residual volatiles content z is 10 to 15% by weight, based on the clearcoat film, and

in the last drying section, employing an average drying rate of 0.5 to 3% by weight/min, based on the total volatiles content of the applied clearcoat film, until the residual volatiles content z is less than 7% by weight, based in each case on the clearcoat film.

8. (Previously Presented) The process as claimed in Claim 1, further comprising, in a step f., adjusting a surface of the clearcoat film 3b to a temperature of less than 50°C.

9. (Previously Presented) The process as claimed in Claim 1, further comprising covering a surface of the clearcoat film 3b with a protective sheet in a step g.

10. (Previously Presented) The process as claimed in Claim 1, wherein applying the basecoat material in step a. comprises applying by means of a continuous method.

11. (Previously Presented) The process as claimed in Claim 1, wherein applying the basecoat material in step c. comprises applying by means of a continuous method.

12. (Previously Presented) The process as claimed in Claim 1, wherein applying the clearcoat material in step e. comprises applying by means of a continuous method.

13. (Previously Presented) The process as claimed in Claim 1, wherein applying the basecoat material in step a. comprises applying by means of a directed application method.

14. (Previously Presented) The process as claimed in Claim 1, wherein applying the basecoat material in step c. comprises applying by means of an undirected application method.

15. (Previously Presented) The process as claimed in Claim 1, further comprising wherein a free side of the carrier sheet has been covered with an adhesion coat.

16. (Previously Presented) The use of the multilayer sheets S produced by the process as claimed in Claim 1 for producing color and/or effect films.

17. (Previously Presented) The use as claimed in Claim 16, wherein the color and/or effect films serve for the coating of substrates.

18. (Previously Presented) The use as claimed in Claim 16, further comprising, after the multilayer sheets S have been joined with substrates, converting the multilayer sheets S into color and/or effect coatings by thermal curing and/or curing with actinic radiation.

19. (Previously Presented) The use as claimed in Claim 18, further comprising stretching the multilayer sheets S before, during or after their joining to the substrates.

20. (Previously Presented) The use as claimed in Claim 17, wherein the substrates are selected from the group consisting of automobile bodies, modules, and exterior mounted components therefor.

21. (Previously Presented) The process as claimed in Claim 3, comprising, in the last drying section, employing an average drying rate of 1 to 6% by weight/min, based on the total volatiles content of the applied basecoat film, until the residual volatiles content x is less than 7% by weight.

22. (Previously Presented) The process as claimed in Claim 21, comprising, in the last drying section, employing an average drying rate of 1 to 6% by weight/min, based on the total volatiles content of the applied basecoat film, until the residual volatiles content x is less than 5% by weight, based in each case on the basecoat film.

23. (Previously Presented) The process as claimed in Claim 7, comprising, in the last drying section, employing an average drying rate of 0.5 to 3% by weight/min, based on the total volatiles content of the applied clearcoat film, until the residual volatiles content z is less than 5% by weight.

24. (Previously Presented) The process as claimed in Claim 23, comprising, in the last drying section, employing an average drying rate of 0.5 to 3% by weight/min, based on the total volatiles content of the applied clearcoat film, until the residual volatiles content z is less than 3% by weight.

25. (Currently Amended) A process for producing a multilayer sheet S by coating an optionally pretreated carrier sheet with

a pigmented basecoat film,

if desired, a second pigmented basecoat film, and

a clearcoat film,

the process comprising:

a. applying a pigmented basecoat material to the carrier sheet to give a wet basecoat film 1a, flashing off the basecoat film 1a for 1 to 6 minutes at a temperature, humidity, and airspeed prevailing during application of the pigmented basecoat material, and adjusting the basecoat film 1a which is adjusted to a residual volatiles content " x " of less than 10% by weight, based on the basecoat film, to give a conditioned basecoat film 1b,

b. adjusting a surface of the conditioned basecoat film 1b to a temperature of less than 50°C using chill rolls, to give a temperature-adjusted basecoat film 1b,

c. if desired, applying a second pigmented basecoat material or the pigmented basecoat material to the temperature-adjusted basecoat film 1b to give a wet basecoat film 2a, flashing off the basecoat film 2a for 1 to 6 minutes at a temperature, humidity, and airspeed prevailing during application of the pigmented basecoat material, and adjusting the basecoat film 2a to a residual volatiles content "y" of less than 10% by weight, based on the basecoat film, to give a conditioned basecoat film 2b,

d. if appropriate, adjusting the conditioned basecoat films 1b and 2b to a temperature of less than 50°C at a surface of the basecoat film 2b using chill rolls, to give a temperature-adjusted basecoat film 2b,

e. applying a clearcoat material to the temperature-adjusted basecoat film 1b or 2b to give a wet clearcoat film 3a, flashing off the clearcoat film 3a for 2 to 8 minutes at a temperature, humidity, and airspeed prevailing during application of the clearcoat material, adjusting the clearcoat film 3a to a residual volatiles content "z" of less than 5% by weight, based on the clearcoat film.

26. (Previously Presented) The process as claimed in claim 1, wherein the residual volatiles content "x" of the wet basecoat film 1a. is adjusted at a temperature of 30 to 100°C, a humidity of 3 to 15 g/kg, and an airspeed of 0.2 to 15 m/s for 1 to 10 minutes;

the residual volatiles content "y" of the wet basecoat film 2a is adjusted at a temperature of 30 to 100°C, a humidity of 3 to 15 g/kg, and an airspeed of 0.2 to 15 m/s for 1 to 10 minutes; and

the residual volatiles content "z" of the wet clearcoat film 3a is adjusted at a temperature of 80 to 140°C.